

Completed Return-On-Investment Project Case Study



United States Department of Energy
Office of Environmental Management
Fact Sheet

TRU Waste Assay & Segregation Savannah River Site, South Carolina

Original Problem

A large amount of legacy waste currently managed as transuranic (TRU) waste meets disposal criteria for LLW on site. This legacy waste accumulation resulted from the inability to accurately segregate LLW from transuranic waste due to lack of waste characterization and assay capabilities at the time of generation. LLW can be disposed of on site at $<1/10^{\text{th}}$ the cost of TRU waste disposal at the Waste Isolation Pilot Plant.



The ROI Project Solution

SRS evaluated ~2,000 legacy TRU waste drums through the Container Examination and Evaluation Program (CEEP). CEEP used both on-site and leased (Canberra Q2) waste assay equipment to segregate the LLW from the TRU waste stream.

DOE Monetary Benefits

Cost	\$800,000
Lifecycle Savings	\$4,200,000
Return on Investment	425 %

Value Of Improvement

CEEP reclassified 823 drums of TRU legacy waste to LLW resulting in significant cost avoidance. Management of this waste as LLW also reduces future handling requirements to certify this waste to meet Waste Isolation Pilot Plant disposal criteria.

Benefits At-A-Glance

- TRU versus LLW segregation results in reduced waste management costs and reduced future liability associated with unknown process requirements for TRU waste.
- Benefits documented for only CEEP, on-going deployments would result in additional savings

Lifecycle Waste Reduction

Life Cycle Waste Reduction	170 m3
Operation Commencement Date	12/97
Project Useful Life (Years)	1 year

TRU Waste Assay & Segregation

Savannah River Site, South Carolina

Summary Data

ROI Priority Area:	Waste Management
ROI Project Type:	Cost Avoidance
Project Cost:	\$800,000
Lifecycle Savings:	\$4,200,000
Implementing Group:	EM, SRS Solid Waste Division
Benefiting Group:	EM, SRS Solid Waste Division
Useful Life Years:	1 Year used for CEEP (Technology application is on-going)
Return On Investment:	425 %
Lifecycle Waste Reduction:	170 m3 for CEEP
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